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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,296	09/16/2003	Hong Ying Wang	50103-569	9800

49745 7590 03/24/2005

SEAGATE TECHNOLOGY LLC  
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WASHINGTON, DC 20005-3096

EXAMINER
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BERNATZ, KEVIN M

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/662,296

Applicant(s)

WANG ET AL.

Examiner

Kevin M Bernatz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 16, 18 and 20-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16, 18 and 20-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Response to Amendment*

1. Amendments to the specification and claims 16, 18 and 20, cancellation of claims 17 and 19, and addition of new claims 21 - 24, filed on January 6, 2005, have been entered in the above-identified application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### *Claim Rejections - 35 USC § 102*

3. Claims 23 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishida et al. (WO 98/03972) – and –
4. Claims 23 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishida et al. (U.S. Patent No. 6,347,016 B1). The Examiner notes that US '016 B1 is the U.S. equivalent to WO '972, and all rejections will cite column/line in US '016 B1.

Regarding claim 23, Ishida et al. disclose a stamper (*Abstract*), comprise a main body having an embossing surface including a negative image of said servo pattern (*Figures 2 – 4 and 14*), wherein said embossing surface is formed of a material meeting applicants' claimed Markush limitations (*Figures 2 – 4 and 14; col. 8, line 20 bridging col. 9, line 5; and col. 21, line 44 bridging col. 23, line 37*).

The limitation(s) "for embossing a servo pattern in a surface of a layer of a hydrophilic sol-gel formed on a surface of a substrate for a magnetic recording medium"

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is (an) intended use limitation(s) and is not further limiting in so far as the structure of the product is concerned. Note that “in apparatus, article, and composition claims, intended use must result in a **structural difference** between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. **If the prior art structure is capable of performing the intended use, then it meets the claim.** In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art.” [emphasis added] *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); *In re Otto*, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963). See MPEP § 2111.02. In the instant case, the disclosed stamper is clearly capable of embossing patterns in a wide range of materials, including hydrophilic sol-gels.

Regarding claim 24, Ishida et al. disclose a main body formed of a hydrophobic polymeric material (*col. 8, line 20 bridging col. 9, line 5; and col. 21, line 44 bridging col. 23, line 37*).

5. Claims 16, 18, 20, 21 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Takeoka et al. (U.S. Patent No. 4,845,000).

Regarding claim 16, Takeoka et al. disclose a stamper (*Title*) comprising (a) main body (*Figure 1C, layers 10', 12 and 14*) having an embossing surface (*layers 16' and 18'*) including a negative image of servo patterns (*elements 32*), wherein said main body is formed of a first metal (*element 12 and col. 3, lines 50 – 57*); and (b) means for facilitating release of said embossing surface of said stamper from a layer subsequent

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to embossing of said servo patterns (*col. 4, lines 16 – 23*), wherein said embossing surface is formed of a material meeting applicants' claimed limitations (*element 18' and col. 4, lines 16 – 23*).

The limitation(s) “for embossing a servo pattern in a surface of a layer of a hydrophilic sol-gel formed on a surface of a substrate for a magnetic recording medium” is (an) intended use limitation(s) and is not further limiting in so far as the structure of the product is concerned. Note that “in apparatus, article, and composition claims, intended use must result in a **structural difference** between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. ***If the prior art structure is capable of performing the intended use, then it meets the claim.*** In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art.” [emphasis added] *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); *In re Otto*, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963). See MPEP § 2111.02. In the instant case, since the disclosed product is a stamper the Examiner deems it is clearly capable of meeting the claimed intended use limitation above.

Regarding claims 18 and 20, Takeoka et al. disclose using Ni as the first metal (*col. 4, lines 13 – 23*) and the Examiner notes that claims 18 and 20 do not positively recite that the Markush element be the hydrophobic polymer. As such, since a dependent claim includes all the limitations of the claims from which it depends, an embossing surface of platinum or carbon still reads on the claimed limitations.

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Applicants are suggested to reword claims 18 and 20 to positively recite that “the embossing surface is a hydrophobic polymer, wherein ...”.

Regarding claims 21 and 23, Takeoka et al. disclose forming the embossing surface of a material meeting applicants' claimed limitations (*Figure 2C, element '52' and col. 5, line 62 bridging col. 6, line 13*).

6. Claims 16 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Zager et al. (U.S. Patent No. 5,552,009).

Regarding claim 16, Zager et al. disclose a stamper (*col. 10, line 41 bridging col. 11, line 33*) comprising (a) main body (*col. 11, lines 14 – 16 and 22 - 24: “opaque metal relief image layer” or “dimensionally stable and preferably transparent to actinic radiation” substrate*) having an embossing surface (*col. 11, lines 3 – 13: embossed “photohardenable film”*) including a negative image of servo patterns (*col. 10, lines 45 - 46*), wherein said main body is formed of a first metal layer (*col. 11, lines 14 – 33- opaque metal relief image layer*); and (b) means for facilitating release of said embossing surface of said stamper from a layer subsequent to embossing of said servo patterns (*col. 11, lines 25 – 30: fluoropolymers*), wherein said embossing surface is formed of a material meeting applicants' claimed limitations (*col. 11, lines 25 – 30: fluoropolymers*).

The limitation(s) “for embossing a servo pattern in a surface of a layer of a hydrophilic sol-gel formed on a surface of a substrate for a magnetic recording medium”

is (an) intended use limitation(s) and is not further limiting in so far as the structure of the product is concerned for the reasons cited above.

Regarding claim 18, Zager et al. disclose that polycarbonate (e.g. an amorphous hydrophobic thermoplastic material) can be used as a substrate that is dimensionally stable and transparent to actinic radiation (*col. 3, line 65 bridging col. 4, line 57*).

### ***Claim Rejections - 35 USC § 103***

7. Claims 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeoka et al. as applied above, and further in view of Ishida et al. (WO '972). See U.S. Patent '016 B1, which is the U.S. equivalent of WO '972.

Takeoka et al. is relied upon as described above.

Regarding claims 22 and 24, Takeoka et al. fail to disclose using an embossing surface formed of a polyetherimide or a main body meeting applicants' claimed limitations.

However, the Examiner deems that the claimed materials and the materials disclosed in Takeoka et al. for the embossing surface and main body are known equivalents in the field of stampers, as taught by Ishida et al. (*col. 9, lines 42 – 55 and col. 21, line 44 bridging col. 22, line 14*).

Substitution of equivalents requires no express motivation as long as the prior art recognizes the equivalency. In the instant case, the claimed materials for the embossing layer and main body and the disclosed materials in Takeoka et al. for the corresponding layers are equivalents in the field of known polymeric materials capable

of meeting the processing and use requirements for magnetic stampers. *In re Fount* 213 USPQ 532 (CCPA 1982); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *Graver Tank & Mfg. Co. Inc. v. Linde Air Products Co.* 85 USPQ 328 (USSC 1950).

8. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zager et al. ('009) as applied above.

Zager et al. is relied upon as described above.

Regarding claim 20, while Zager et al. fail to explicitly disclose a first metal formed of nickel, the Examiner notes that Zager et al. teach that conventional stampers in the art are formed using nickel (*col. 16, lines 6 – 9*). It would therefore have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the device of Zager et al. to use a dimensionally stable nickel substrate as the base layer in a stamper as taught by Zager et al., since using nickel stampers is known in the art as the conventional stamper material and the selection of a known material for a known task is within the knowledge of one of ordinary skill in the art.

Regarding the limitation(s) "sputtered hydrophobic polymer", the Examiner notes that this limitation(s) are/(is a) process limitation(s) and is/are not further limiting in terms of the structure resulting from the claimed process. Specifically, in a product claim, as long as the prior art product meets the claimed structural limitations, the method by which the product is formed is not germane to the determination of patentability of the product unless an unobvious difference can be shown to result from the claimed process limitations. In the instant case, regardless of how the polymer layer



is applied, the Examiner deems that the final product will be substantially identical in structure and performance.

9. Claims 21, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zager et al. ('009) as applied above in Paragraph 6, and further in view of Ishida et al. (WO '972). See U.S. Patent '016 B1, which is the U.S. equivalent of WO '972.

Zager et al. is relied upon as described above.

Regarding claims 21, 23 and 24, Zager et al. fail to explicitly teach forming the photohardened film (i.e. applicants' embossing surface) of a material meeting applicants' claimed limitations, though Zager et al. disclose many monomers which would appear to lead to the claimed, or similar, materials (*col. 5, line 9 bridging col. 8, line 27*).

However, Ishida et al. teach using polymeric materials meeting applicants' claimed limitations for the embossing layer since these materials have excellent stability as well as adhesiveness to the adjacent metal layers (*col. 21, line 44 bridging col. 23, line 37*). The Examiner further notes that one of ordinary skill in the art would readily appreciate that polyetherimides are simply a subset of polyimides and exhibit similar properties, and are hence equivalents to one another in terms of applications requiring good dimensional stability (as required by Ishida et al. above).

It would, therefore, have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the device of Zager et al. to use embossing materials meeting applicants' claimed limitations as taught by Ishida et al., since such

materials exhibit an excellent combination of dimensional stability and adhesiveness to the adjacent metal layers.

***Response to Arguments***

**10. The rejection of claims 16, 18 and 20 - 24 under 35 U.S.C § 102(b) and/or 103(a) – Takeoka et al., alone or in view of Ishida et al.**

Applicant(s) arguments have been considered but are moot in view of the new ground(s) of rejection. In so far as they apply to the present rejection of record, applicant(s) argue that “Takeoka et al. do not disclose a stamper comprising a main body formed of a first metal and an embossing surface formed of platinum, carbon, or a hydrophobic polymer, as required by claim 16” (*page 6 of response*). The Examiner respectfully disagrees.

The Examiner notes that applicants appear to be giving them transitional phrase “formed of” a much narrower definition than what is deemed appropriate by the Examiner. Specifically, the Examiner notes that “formed of” is deemed to be comparative to the language “comprising” (*as used by applicants in line 3 of the aforementioned claim*) and, hence, the main body and embossing surface are open to other materials/layers being present. Should applicants desire to exclude the other layers (and hence, other materials) in Takeoka et al., applicants should consider using the language “consisting of” in combination with more detail regarding the location of the main body relative to the embossing surface (e.g. “wherein the embossing surface is directly adjacent to the main body”).

**11. The rejection of claims 16, 18 and 20 - 24 under 35 U.S.C § 102(b) and/or 103(a) – Zager et al., alone or in combination with Ishida et al.**

Applicant(s) arguments have been considered but are moot in view of the new ground(s) of rejection. In so far as they apply to the present rejection of record, applicant(s) argue that Zager et al. “do not disclose a stamper comprising a main body formed of a first metal and an embossing surface formed of platinum, carbon, or a hydrophobic polymer” (*page 7 of response*). Applicants further argue that “Zager et al. do not disclose a stamper with a main body comprising a first metal and an embossing surface comprising a fluoropolymers” (*ibid*) and that the “Examiner apparently combined two different embodiments ... However, Zager et al. does not suggest combining these two different embodiments”. The Examiner respectfully disagrees.

As above, the Examiner notes that part of the confusion appears to stem from a difference in scope afforded the language “formed from”. Regarding the alleged mischaracterization of Zager et al., the Examiner notes that Zager et al. teach forming a stamper by the process of the disclosed invention (*col. 10, lines 65 – 67*), wherein the main body includes an opaque metal “relief image layer” (*col. 11, lines 15 – 22*). Furthermore, Zager et al. teach that the dimensionally stable substrates used for prior art stampers typically comprise Ni, which though not optically transparent, would still be capable of functioning in the Zager et al. method of forming a stamper provided that the relief information track is optically transparent (so the actinic radiation would pass through the relief information track as opposed to passing through the substrate). Such

a modification is deemed within the knowledge of one of ordinary skill in the art since is simply requires moving the radiation source from one side of the molding apparatus to the other and using optically transparent materials for the relief track support versus the photohardenable layer support.

### ***Conclusion***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Applicants' amendment resulted in embodiments not previously considered (i.e. "said main body is formed of a first metal" and "said embossing surface is formed of ...") which necessitated the new grounds of rejection, and hence the finality of this action.

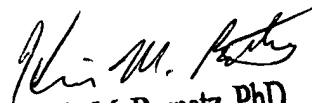
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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M Bernatz whose telephone number is (571) 272-1505. The examiner can normally be reached on M-F, 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KMB  
March 17, 2005

  
Kevin M. Bernatz, PhD  
Primary Examiner